What RTCA Is Doing*

J. HOWARD DELLINGER†

The following address was given by Dr. Dellinger at the evening session of the RTCA-IRE Symposium, sponsored by the Los Angeles Section of the IRE, on May 7, 1957. It is reproduced here as presented, and is a status report on present RTCA activities. The pamphlet, "RTCA, What It Is and What It Does," referred to in Dr. Dellinger's address, may be obtained from the RTCA Secretariat, Room 1072, Building T-5, 16th and Constitution Ave., N.W., Washington 25, D. C. Additional information on RTCA was presented in an address by Dr. Dellinger at the 1955 Spring RTCA-IRE meeting in Los Angeles and this address, "What Is RTCA, Its Philosophy, and Its Relationship to IRE and Other Professional Societies?" appeared on pages 4–5 of the September, 1955 issue of these TRANSACTIONS. More information on this year's symposium appears in the PGANE News Section of this issue.—*The Editor.*

"TO DO some justice to my topic, I must begin by assuming that you know the Radio Technical Commission for Aeronautics to be an association not of persons but of organizations; that these organizations include the principal bodies, both governmental and private, in its field; and that its business is the production of recommendations on technical problems. We are proud of the record of implementation of our recommendations by all responsible agencies, a record which is not surprising since those agencies participate in the formulation of the recommendations and since also we have a tradition of sticking with a problem until we find the right answer.

"To anyone who does not fully understand what RTCA is, I would like to present a copy of our pocket-size green pamphlet, RTCA, What It Is and What It Does. Our work is done principally by so-called Special Committees each of which studies a specific problem assigned to it by our Executive Committee and then produces an agreed recommendation. Each Special Committee is automatically dissolved upon the approval of its one or more reports by the Executive Committee. The members of the Special Committees are selected on the basis of their knowledge of the subject under study rather than on the basis of their organizational connection.

"I will summarize very briefly the current work of the twelve Special Committees now active.

"SC56, under the chairmanship of C. A. Petry (Aeronautical Radio, Inc.), is concerned with communication requirements and frequency utilization planning. This Committee has produced a number of reports covering the use of frequency channels in the band 118–132 mc. I am happy to be able to report that in all cases the recommendations of SC56 have been incorporated in the Rules of the FCC and have been implemented by the CAA and by the users of the airspace. Its latest report, on improvement of vhf communication between aircraft and CAA air traffic communication stations, was approved last month for publication.

"SC58, under the chairmanship of B. E. Montgomery (Lockheed Aircraft Corporation), is charged with the development of minimum performance standards for airborne electronic equipment. It has issued ten reports, covering airborne equipments for hf communication, vhf communication, automatic direction finders, vor receivers, ils glide slope receivers, ils localizer receivers, 75-mc markers, and interphone amplifiers. Reports are now being prepared on TACAN dme, airborne weather radar, safety beacons, headphones, and microphones. The standards set forth in the reports already released have been incorporated in CAA Technical Standard Orders.

"SC63, under the chairmanship of W. M. Young (Department of the Army), conducts studies of helicopter navigation, communication, and traffic control. Subcommittees are defining the operational requirements through 1960, also operational requirements for 1960 to 1975, and techniques for helicopter navigation, communication, and traffic control. The Committee has issued one report, setting forth helicopter navigation requirements.

"SC64, under the chairmanship of L. M. Sherer (Executive Secretary of RTCA), was appointed to develop performance requirements for the common-system atc radar safety beacon. Since the complex military requirements are major desiderata in this system, the work of this Committee entails close cooperation with related studies of the Air Navigation Development Board.

"SC68, under the chairmanship of A. R. Applegarth (National Aeronautical Corporation), studies interference from uhf television stations to aeronautical navigation operations with a view to its alleviation. The Committee arranged for mathematical analyses and for flight tests. The Committee's report is now being prepared.

* Address presented at the RTCA-IRE Symposium, Los Angeles, Calif., May 7, 1957.
† Chairman, Radio Technical Commission for Aeronautics.

"SC70, under the chairmanship of R. F. Gates (Civil Aeronautics Administration) deals with altimetry. Its first assignment was the problem of terrain clearance. The Committee found it necessary, however, to broaden its studies materially. One phase of its work reviewed the need for precise information on the magnitude of altimeter systems static pressure errors. A report on this work by R. L. Fine of Wright Air Development Center is scheduled for our first Technical Session tomorrow morning. Other studies now in progress by SC70 include the analysis of altimeter instrument errors, the use of standard pressure altimeter settings of 29.92 inchs Hg in en route areas in lieu of the currently employed qnh procedures, and the need for accurate calibration of secondary standards for altimeter overhaul and maintenance shops.

"SC72, under the chairmanship of J. A. Parrott (American Telephone and Telegraph Company), conducts studies directed toward improving the intelligibility of air-ground telephony. A draft of its final report is nearly ready.

"SC73, under the chairmanship of E. E. Estes (Civil Aeronautics Administration), is concerned with the frequency channel requirements of the short-distance navigation aid system. In particular, the Committee is devoting its efforts to the channeling requirements of the CAA's current program for implementing some 1200 vor facilities and the frequency-pairing problems entailed in the implementation of the VORTAC program.

"SC75, under the chairmanship of H. F. Tanke (RTCA Technical Staff Officer), is concerned with radio equipment and installation standards for small aircraft. The work is in the stage of preparing résumés.

"SC76, under the chairmanship of Capt. J. D. Smith (Air Line Pilots Association), is charged with defining the operational requirements for jet aircraft and high-altitude operations. It is confining its studies to the period 1959–1964.

"SC77, under the chairmanship of W. W. Felton (Franklin Institute), studies the problems of aircraft position reporting. Its present efforts are directed to the development of a universal coordinate system which may be used for aircraft position identification. The work of SC77 was undertaken in anticipation of the future use of computers for various air traffic control functions.

"SC78, under the chairmanship of V. I. Weihe (Air Transport Association of America), is studying aviation's present and future uses of frequencies throughout the radio spectrum. It is expected the findings of this Committee will be of value in the preparatory work for the 1959 ITU Conference. It is to be noted that the frequency requirements of the airframe manufacturers for telemetering will be considered at our afternoon session on Thursday.

"The foregoing gives a very sketchy idea of the work in progress in the Special Committees. Some activities are handled by other types of Committees. Examples are the Steering Committee, under the chairmanship of R. L. Froman (Civil Aeronautics Board), which concerns itself with monitoring progress in various aeronautical fields and bringing problems which require action to the attention of the Executive Committee. We also appoint a Long-Range Planning Committee at the beginning of each year, to take a broad look at the aviation picture and formulate recommendations as to the handling of long-range future problems. Again, RTCA devotes an appreciable portion of its efforts to coordinating its work with the Air Coordinating Committee, Air Navigation Development Board, and other groups concerned with the formulation and implementation of the common system of air navigation, communication, and traffic control. This subject will be under consideration at the Symposium to be held tomorrow afternoon.

"I take this occasion to express the deep appreciation of the Radio Technical Commission for Aeronautics to Chairman Horne, the Los Angeles IRE Officers, and the others who have done the planning and arranging for this meeting. It is evident that it will fully maintain the high standard set by the meeting we had here two years ago."